REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendment and the following response.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, are presented, with an appropriate defined status identifier.

Claims 1-19 are pending in this application. Claims 7-9, 11, 15, and 17-19 have been withdrawn from consideration as drawn to non-elected subject matter. Claims 1, 10, 12-14, and 16 are currently amended. Support for amended claims 1 and 10 may be found in the originally filed claims and specification, particularly at page 14, lines 31-35. Claims 12-14 and 16 have been amended to incorporate limitations present in non-elected claims 7-9, 11, and 15. No new matter is added by this Amendment.

Enclosed herewith is a verified translation of Japanese Patent Application No. Hei 10-262941, entitled "Immobilized cDNA Libraries," and filed on September 17, 1998.

In the Office Action dated February 4, 2003, the Examiner rejected claims 1-6, 10, 12-14, and 16 under 35 U.S.C. § 102(b) as being anticipated by Roeder. Applicants respectfully traverse the rejection because Roeder does not teach all the elements of the amended claims. Roeder discloses a cDNA library comprising antisense strands bound to magnetic beads at their 5'-sides. The sense strands of Roeder's library are not immobilized, but are merely hybridized to the antisense strand. In contrast, the amended claims recite cDNAs which are immobilized, not merely hybridized. In addition, the sense strands of Roeder's library are oriented in the 3'-direction, as a result of hybridizing with the antisense strands immobilized to the magnetic beads. As noted in the specification at page 4, lines 14-23, cDNA libraries having structures such as those disclosed by Roeder are problematic. In contrast, the amended claims recite sense strands of cDNA which are immobilized at their 5'-sides. Therefore, the cDNA library recited in the amended claims is novel over Roeder, and

Applicants respectfully request that the Examiner reconsider the rejection under 35 U.S.C. § 102(b).

In the Office Action, the Examiner rejected claims 1, 2, 5, 6, 10, 12-14, and 16 under 35 U.S.C. § 102(e) as being anticipated by Belyavsky. Applicants respectfully traverse the rejection because Belyavsky does not teach all the elements of the amended claims. The cDNA library recited in the amended claims has been restricted to full-length cDNAs. Belyavsky does not disclose a full-length cDNA library with sense strands immobilized at their 5'-sides. Rather, the immobilized, sense strand cDNA library of Belyavsky consists of partial-length cDNAs (see figure 6). Further, the partial-length, sense strand cDNAs are digested with restriction enzymes to produce fragments, and the differential expression analysis of Belyavsky requires a cDNA library consisting of 5'-end cDNA fragments. Thus, Belyavsky neither discloses nor suggests a full-length cDNA library with sense strands immobilized at their 5'-sides, and the cDNA library recited in the amended claims is novel over Belyavsky. Applicants respectfully request that the Examiner reconsider the rejection under 35 U.S.C. § 102(e).

In the Office Action, the Examiner rejected claims 1-6, 10, 12-14, and 16 under 35 U.S.C. § 103(a) as being obvious over Minter in view of Dynal. Applicants respectfully traverse the rejection because the combination of Minter and Dynal does not disclose all the limitations of the amended claims. Minter does not disclose the synthesis of full-length cDNA from mRNA. Rather, a double-stranded DNA is synthesized by DNA polymerase using the template DNA in Figure 2-A and Figure 2-B, and a reverse transcriptase is not disclosed. At column 7, lines 43-59, Minter states:

> Reference is now made to FIG. 2 which illustrates the use of the first embodiment of the invention for producing copies of a double stranded sequence of interest....For the purposes of illustration, the strands X and Y are assumed to have the arbitrary base sequence as shown at their end copies....[t]he DNA...is either denatured externally to the column and introduced onto the column or the double stranded DNA is introduced onto the column and the denature in situ. In both instances the DNA is subjected to elevated temperatures or chemical means known in the art to denature the DNA (emphasis added).

Minter continues at column 8, lines 17-22, "[a] polymerase enzyme and nucleotides are then added so as to extend the column bound oligonucleotides...producing copy target 1 strands immobilised on the support." Clearly, Figures 2-A and Figure 2-B do not exemplify a mRNA, cDNA hybrid as suggested by the Examiner, where Minter indicates that the strands have "arbitrary base sequences as shown at their end copies" (see column 7, lines 49-50). Furthermore, Dynal discloses cDNA libraries comprising antisense strands with immobilized 5'-ends. Dynal does not disclose a full-length cDNA library comprising sense strands with immobilized 5'-ends. As such, the combination of Minter and Dynal does not disclose all the limitations of the amended claims, and Applicants respectfully request that the Examiner reconsider the rejection under 35 U.S.C. § 103(a).

In the Office Action, the Examiner rejected claims 1-6, 10, 12-14, and 16 under 35 U.S.C. § 103(a) as being obvious over Wang in view of Dynal. Applicants respectfully traverse the rejection because the combination of Wang and Dynal does not disclose all the limitations of the amended claims. The Examiner asserts that Wang discloses an "anchored-end cDNA library." However, the term "anchor," as used by Wang, only means that the primers for synthesizing cDNA can anneal to a specific mRNA region. Namely, while an oligo dT primer can randomly anneal to any poly A region, a poly TV primer always anneals to the first non-poly A region. The term "anchor," as used by Wang, does not mean "immobilization." The Examiner also indicates that Wang teaches cDNAs tagged with biotin-dCTP. However, the biotin-dCTP is incorporated into the nascent, elongated strand of the cDNA by PCR. The biotin-dCTP is not incorporated into the primer which occupies the 5'-side of the cDNA, and the resulting PCR product has biotin-dCTP incorporated at sites other than the 5'-side. Therefore, Wang's cDNAs tagged with biotin-dCTP cannot be immobilized at the 5'-side as recited in the amended claims. Furthermore, as noted above, Dynal does not disclose a full-length cDNA library comprising sense strands with immobilized 5'-ends. As such, the combination of Wang and Dynal does not disclose all the limitations of the amended claims, and Applicants respectfully request that the Examiner reconsider the rejection under 35 U.S.C. § 103(a).

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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